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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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SOUNDINGS AT LIME KILN CROSSING.

Mr. Livingstone, Detroit, ex-president of the Lake Carriers' Association, on being asked about the statements relative to the draft of water on the Lime Kilns Crossing, and as to how he explained the fact that at times there were only 17 feet 8 inches on the crossing, and Gen. Poe had reported there was twenty feet, replied, "that the statements as made were very unjust towards Gen. Poe. That the facts were simply these. That the Lime Kilns Crossing proper which constitutes what is called the 440 foot channel and on which the Government appropriation was expended and the work done under Gen. Poe's direction, is only 2,500 feet in length by 440 feet in width, and that the channel was dredged and finished complete to 20 feet in depth by 440 feet in width and still remains so, with the exception of some loose boulders or stones of that nature which may have been swept into the channel, but that as a matter of fact the Lime Kilns proper extended from Ballard's Reef to Bar Point, a distance roughly speaking, of eleven miles, or to be accurate 55,000 feet, and that the difficulties which vessels experience in the low stage of water were not in the 2,500 foot channel which Gen. Poe constructed, but occurred above and below the Lime Kilns channel proper, and that that was where parties who criticised Gen. Poe made their mistake. That the 2,500 foot channel, barely one half a mile in length, was only a small part, so to speak, of the eleven miles from Ballard's Reef to Bar Point, and that until the channel twenty feet deep was dredged and completed, the entire eleven miles, the question of low water at the Lime Kilns above and below the twenty foot channel would exist, and he thought that it was the gravest injustice, without parties having actual knowledge or investigating the facts, that any one should make the slightest reflection against Gen. O. M. Poe, whom he declared, emphatically, was the best, most loyal friend that the vessel interests had ever had upon the lakes, bar none."

Col. Lydecker, Corps of Engineers, U. S. A., when asked regarding the subject said: "The depth of water reported by Gen. Poe at the Lime Kiln Crossing is still there. The misunderstanding is caused by the application of the words 'Lime Kilns Crossing. The levels as reported by Messrs. Duff & Gatfield are for the entire lower river region, which includes several hundred feet of unimproved channel. The work of dredging out this unimproved waterway is being pushed as rapidly as possible, and in time the entire channel will have the depth given by Gen. Poe at the crossing proper."

SHOULD A SHIP CANAL BE BUILT FROM THE LAKES? A BARGE CANAL THE BEST.

United States Engineer, Maj. Symons, Corps of Engineers, U. S. A., stationed at Buffalo, N. Y., has demonstrated: First, that on account of the cost of construction and navigation, large lake and ocean vessels could not with economy use a ship canal through the State, if built. Second, that a barge canal fed by Lake Erie and with a descending current from Buffalo to the Hudson river is entirely practicable, and one large enough to take a tow of 1,500 tons or 50,000 bushel barges could be built for something like $50,000,000, or one-fifth the cost of a ship canal. Third, that including the cost of transfer from large lake vessels, this would be the cheapest possible freight from the Great Lakes to tidewater. Fourth, that such barges which could enter all the lake ports with their present depth of water would, as a matter of practical business economy, take all the freight, which would vastly increase from the lower lake ports to New York, without transfer and at the lowest possible cost, and bring back at the lowest cost, all the products of the east and Europe destined for distribution throughout the vast territory, of which the chain of Great Lakes is the natural outlet. This is a matter of vital importance to all the lake cities and to the territories penetrated by the great railroad systems reaching out from all the principal lake ports to the 30,000,000 or 40,000,000 of people, whose natural outlet and inlet they constitute. A barge canal can be cheaply built and will serve the necessities of the northwest.

THE SUB-MARINE TORPEDO BOAT.

The report of the Board of Inspection and Survey on the official test of the submarine boat Holland, in Peconic Bay, Nov. 6, has been given out by the Secretary of the Navy. The tests were made to ascertain whether the boat was able to come up to the requirements for a submarine boat for the navy. The board reports that all the requirements of the department were fulfilled by the performance of the Holland on this trial.

A report by Capt. John Lowe, United States Navy, who was on board the Holland at the official trial, showed that nine persons, or four more than would be required should the little destroyer go into action, were carried in the tests, which occupied a period of a little more than three hours. At the close the condition of the batteries and the air reservoirs showed that the boat would have run three times as far as she did without replenishing either. Both the gas engine and the electric motor were used to drive the boat, the former when she was running on the surface of the water. Capt. Lowe describes the Holland as "an engine of warfare of terrible potency, which the Government must necessarily adopt into its service."

REPORT ON NAVAL TONNAGE.

The monthly progress report of Admiral Hichborn, Chief of the Construction Bureau, shows the percentages of completion of all types of warships now building for the Government as follows: Battleships.—Kearsarge, 97 per cent.; Kentucky, 95; Illinois, 71; Alabama, 91; Wisconsin, 79; Maine, 15; Missouri, 1; Ohio, 7. Sheathed Cruiser.—Albany, 94. Monitors.—Arkansas, 4; Connecticut, 30; Florida, 17; Wyoming, 24. Torpedo Boat Destroyers.—Bainbridge, 30; Barry, 30; Chauncey, 28; Dale, 45; Decatur, 44; Hopkins, 27; Hull, 27; Lawrence, 64; Macdonough, 60; Paul Jones, 50; Perry, 50; Preble, 50; Stewart, 8; Truxton, 5; Whipple, 5; Worden, 5. Torpedo Boats.—Dahlgren, 98; Stringham, 85; Goldsborough, 93; Baily, 57; Bagley, 3; Barney, 3; Biddle, 3; Blakely, 60; Delong, 60; Nicholson, 42; O'Brien, 42; Shubrick, 68; Stockton, 65; Thornton, 64; Tingey, 38; Wilkes, 20; T. A. M. Craven, 98. Submarine Torpedo Boat.—Plunger, 85.

SUBSIDIZED SHIPPING.

As showing how dependent ship owners in France are on the navigation bounty, an exchange states the results of three voyages of ships about 2,520 tons burden each, and belonging to Nantes, have been published. On a voyage from Rouen to Swansea, San Francisco, Newcastle-on-Tyne, 357 days, the working expenses of one vessel, including depreciation of 10 per cent., were about $34,710, and the receipts about $27,610, or a loss on the voyage of $7,100; the bounty amounted to $17,890, so that the net profit was $10,795. The voyage of the second vessel was from Barry Dock to a port in Spencer's Gulf, South Australia, and back to Swansea, 307 days, the expenses $22,285, depreciation $8,070, together $30,355, and the receipts $28,425, or a loss of $1,930. As the bounty amounted to $14,770, there was a net profit of $12,835. The voyage of the third vessel was Newcastle, Swansea, San Francisco, East London, Havre, 496 days. The expenses, including depreciation, were $47,950 and the receipts $47,525, or a loss of $425. The bounty amounted to $26,695, which left a profit of $26,270, or about 30 per cent. on the capital.

CHANNEL THE AMERICAN SIDE.

The following expression of opinion from Congressman H. C. Smith of Michigan, in regard to the proposed dredging of the American channel from Ecorse to Gibraltar is worthy of careful consideration. The making of a 20-foot channel on the east side of Grosse Isle is regarded by the people of Wyandotte as an imperative necessity. There is not now sufficient water in the channel for deep draught boats. Congressman Smith says:

"The question is whether the naval survey, which favors the American channel, or the coast survey, which favors the Canadian channel, will be followed. There is also a scheme to dam Lake Erie at Buffalo and thus raise the water up here. I do not fancy this, and would not like to see all the good citizens of Ecorse, Wyandotte and Gibraltar driven to the necessity of building an ark, of course, it would not be Noah's ark, for every man would own a boat of his own

"The Canadian channel is hard rock, and while much money has been spent there, I think it is generally known that this was a mistake, and it would be cheaper now to use the American channel and give Americans the benefit. Then, too, in case of war with Great Britain, her forces would be in control of this channel, which our money has built. Nothing of this kind is now in sight, but it is not bad policy to prepare for war in times of peace."

THEY DON'T DO ANY HARM.

We see that Capt. A. T. Mahan, U. S. N., has written another letter—quite a long one, this time; the other filled only three or four columns—about the Sampson-Schley controversy. The outburst recalls an incident which occurred not so long ago. A British admiral visiting this country, came to Washington, and, while here, was the guest of a certain prominent social club. Among others he met one of our own admirals, retired. The latter, with every intention of being agreeable, explained the growth of our navy and the talent of our navy officers. Especially did he mention Capt. Mahan, expatiating at length upon his literary ability and the famous books he had written. The British admiral, utterly unconscious of a humorous design, reflected a moment, and then said: "Mahan, Mahan; oh, yes; the book fellow! Why, certainly, you know. We have a number of chaps of that kind ourselves, don't you know. Good chaps in their way, to be sure. We put 'em in rooms somewhere, and let 'em write, eh? Just let 'em write. Bless you, they don't do any harm to anybody!"—Washington Post.

THE Schultz Bridge & Iron Co., McKees Rocks, Pa., has been awarded a contract to build a steel pier and dock and a steel bridge at Tehuacan, Mexico, the cost being in the neighborhood of $600,000.

PORT HURON.

Special Correspondence to the Marine Record:

Capt. James Davidson is in favor of, and gives his entire patronage to the Great Lakes Towing Co. at every port where the syndicate has tugs.

Twice last week lumber-laden steamers bound for Tonawanda struck on what appears to be a new sandbar formed recently in the channel of the Niagara river, half way between the foot of Squaw Island and the head of Strawberry Island.

The Anchor line steamer Conestoga, Capt. Henry Cronkhite, sunk at Chicago this week through running foul of a partially submerged crib and stoving in her bows during a fog. Damage to cargo is estimated at $50,000 and $10,000 for hull repairs and detention.

The Weather Bureau agent at Detroit wants electric lights to replace oil lamps at Sturgeon Bay, a telephone established at Death's Door, laying a cable to Plum Island for the life-saving service to connect with Washington and Pilot Island, and goodness only knows what else he don't want, with, or without reason.

There will be a large quantity of coal shipped to the head of the lakes by rail this winter as the shippers have been ununable to send coal forward and there is a shortage all round. The mines and railroads, not the facilities for transportation by lake, are responsible for the low stocks, and it is now too late to supply the demand except by rail through the winter months.

It is understood here that the St. Joseph firm of Graham & Morton paid $15,000 cash for the little passenger steamer Mary, and at that figure they secured a bargain, considering the way vessel property is held now. The Mary was built at Marine City in 1882, is 117 tons net and classed for insurance purposes as A2 with a valuation of $15,000. Owned by Burnham and others. She hailed from St. Clair.

Immigrant Inspector Petit, arrested two Canadians who had crossed the border under a contract to go to Manistee to work in the lumber woods. They will be held and proceedings brought against the parties with whom they had made the contracts. The United States law imposes a fine of $1,000 for each individual violation of the law in the case. And the firm bringing these aliens to work in the United States will be meted out the full penalty of the law.

On Nov. 30 the people of Collingwood, Ont., will vote on the proposition to donate a bonus of $50,000 to Capt. Alexander, of Duluth, and his associates for the establishment of a shipbuilding plant there. The money is to be paid in annual installments of $2,891.51. The proposition is quite popular in Collingwood, and there now seems no doubt of its carrying. A shipyard such as Capt. McDougall and his friends would give to Collingwood ought to guarantee the expenditure by the citizens of that port of so moderate a bonus as that named.

Mr. L. C. Sabin and his staff of engineers, who are connected with the survey of the Great Lakes, are about closing up their season's work in this vicinity. Engineer Sabin says: "The velocity of the water at the rapids is 6½ feet per second, or about 4½ miles an hour. At Dunford & Alverson's dry dock the velocity is in the neighborhood of 3½ miles per hour. When once our data is completed it will be an easy matter at all times to determine the matter of water running through St. Clair river. The object of the survey at this point is to ascertain the amount of water which discharges from the river during 24 hours. It is expected that the Chicago drainage canal will take at least 10,000 cubic feet of water a second. This is about 5 per cent. of the amount which passes through the St. Clair river. If it is found that the water necessary to supply the drainage canal is liable to lower the lakes it is probably that the marine interests will petition Congress to prevent the use of such water. It is our work to find out exactly how the loss of this amount of water would affect the levels." Mr. Sabin has on exhibition in his office in the custom house a number of charts which show the rise and fall of the water in the river. The charts reveal the fact that some days the water will rise 15 inches in one hour, especially if the wind is in the southwest. On other days it will lower in the same length of time. The water in September this year was 3½ inches lower than it was in September, 1898, and nearly one foot lower than in September, 1896.

THE Cramp Ship Building Co. has decided to use pneumatic tools in a wholesale way for its yards and shops. Contracts aggregating $50,000 have already been awarded to the Chicago Pneumatic Tool Company for riveters, hammers and other tools driven by compressed air. In all $100,000 will be expended on additional equipments.

CHICAGO.

Special Correspondence to The Marine Record.

The Chicago Ship Building Co. are completing the enlarging of their dry dock.

Capt. James Reed, of Bay City, the well known wrecker, was in Chicago Tuesday.

The schooners Sophia J. Luff, Stafford, Thos. Howland. Lotus Bradley, L. M. Mason, and Z. Simmons are stripped and will go into winter quarters.

The Lake Seamen's Union, of Chicago, will give their twentieth annual ball on Saturday, December 9th, at the Aurora Turner Hall, Huron street and Milwaukee avenue.

The Northern Michigan Transportation Co. has been notified that a fine has been lodged against the company of $8,-150 for failure to comply with the provisions of the Illinois trust law.

As a preventive of fires on board steamers like the Patria, ex-Steamboat Inpector Guthrie strongly advocates the placing of tanks containing carbonic acid gas below the decks of all ships.

The steamer Auburn of the Western Transit line has been libeled at the instance of the owners of the tug E. G. Crosby for damages to the tug in Chicago river on Oct. 5. The claim is for $850. The steamer gave a bond of $1,000 and was not detained.

It is the usual weekly or almost daily occurrence for something to run foul of one of our numerous bridges. This week the old well-known schooner Rouse Simmons had a bout with the Adams street bridge, losing her boom and foremast.

The L. M. & P. S. Trans. Co.'s steamer Peerless has been placed in winter quarters here. The is the first of the company's fleet to lay up this season, their steamers City of Traverse, Jay Gould, and Osceola will lay up on their arrival from Lake Superior.

At Miller Bros.' shipyard the steamer Imperial is in drydock for a new stern, new steel arches, some new bottom plank, calking and ironing. A schooner is at the derrick to receive new fore and main masts and jibboom, also two new deck beams and some new deck.

The steamer Santa Maria, Capt. Walter Hamilton, and consorts Wayne, Marvin and Shawnee arrived here Tuesday morning from Lake Superior, with 3,500,000 feet of lumber for their owners, the Hines Lumber Co. This is the largest quantity of lumber ever brought here in one tow. The Wayne, Marvin and Shawnee will go into winter quarters.

Johnson & Knudson, ship carpenters, are converting the hull of the old schooner Radical into a floating workshop. They are erecting a shop on deck 24 feet in width and 100 feet in length which will be fitted out with an engine and boiler and rip, band and circular saws and a planer. The firm will have everything in working order before the season ends so as to be ready for repair work during the winter.

The new tug which is being built at Burger & Burger's shipyard at Manitowoc, for Capts. Peter Barry and Joe Lamoreaux, of Chicago, is nearly completed and will soon be launched. Her dimensions are 95 feet over all, 21 feet beam and 8 feet hold; engine, high pressure, 19 by 20; Scotch boiler 8½ by 13½, to be allowed 160 pounds steam pressure. She is built solid forward and will have heavy steel plating for use in thick ice. She is to be named the Comfort.

The Anchor line steamer Conestoga, Capt. Cronkhite, collided with the new 5-mile intake crib last Thursday in a dense fog and smashed in her stem and bow from the sail to the forefoot, causing her to leak so badly that she sank at the entrance of Chicago river with her main deck about 3 feet under water. The Dunham Wrecking Co. with tugs and scows, pumps and divers, began work on her Thursday morning, raised her and towed her to the L. M. & L. S. Co.'s dock Saturday morning, where her cargo was unloaded by noon on Monday.

The sale of the steamer Mary of Port Huron to Graham & Morton, has caused considerable speculation on the part of the passenger agents and firms on Lake Michigan. It is known that the Graham & Morton Co. has contracted for the building of a steel steamer about of the diminsions of the Mary and with similar speed. As the company refuses to divulge its plans for next year, all sorts of routes have been mapped out for the two boats. The Mary can easily make 20 miles an hour, although her passenger capacity is limited to less than 600 people. It is belived that the company will establish some short shore line in connection with their larger boats, and enter more largely into the passenger service on Lake Michigan, although the Goodrich line has rather the swing now and they have held it for many years,

Lieut. Gelm, U. S. N., in charge of the naval hydrographic office here, is preparing a statement showing the average date of the formation of ice and its maximum thickness at all the ports on Lake Michigan, Straits of Mackinac and the Michigan shore of Lake Huron. This looks more like weather work than hydrographic. The Weather Bureau, a branch of the Department of Agriculture, fools around with marine work on the lakes, presumably in the interests of farmers, agriculturists or what not. The Weather Bureau should be kept under its own department and not attempt to interfere with or make a burlesque of marine work. Captains are annoyed by requests to take observations and furnish information to both departments, but, as a master tells me this week, sailors can't guess right for farmers, or, there is a difference between plowing the lakes and plowing the land.

It is now definitely announced from Toronto by Hon. Richard Harcourt, treasurer of Ontario, that the Dominion government has given consent to the construction at Montreal and Port Colborne of large elevators, to be built by the Connors' syndicate of Buffalo. The syndicate will spend $4,500,000 on modern elevators, and a fleet of 12 vessels, full canal size, has been ordered. Six of these will be built at the Bertram yards, in Toronto, at least three by the new Collingwood ship builders and three at Three Rivers. The expectation is that 100,000,000 bushels of grain will be eventually delivered yearly to Montreal and the amount will go on increasing. All here welcome the new outlet to the coast as an offset to the squeeze by the railroads and the Erie canal traffic. In any case, the railroads seemed to play checkers with the Erie canal transportation whenever it was desirable to do so.

DULUTH—SUPERIOR.

Special Correspondence to The Marine Record.

The wheat rate went up ½ cent this week, and for Monday brisk chartering was done at 3 cents.

It is now estimated that the ports at the head of Lake Superior will go into the winter with a coal shortage of 300,-000 tons, of which 200,000 tons will be bituminous and 100,-000 tons anthracite.

While taking the mainmast out of the schooner Adriatic on Friday last, D. D. Hill, second mate, and Joseph Dubey, A. B., fell from aloft and were seriously injured. Mr. Hill's home is at Angola, N. Y., and Dubey lived at Bay City.

There will be considerable lumber left at the head of the lakes, which would have been sent forward this season if tonnage had been more plentiful. It is now thought that a good deal will be shipped east by rail during the winter months, and that there will be brisk chartering in the spring as well as through the early portion of next season.

The Northern Pacific road shipped per the steamer Troy 18,680 cases of salmon, consisting of 28 car loads, each case containing 44 cans, making 821,920 cans in all. Some of the salmon were for export. The Northern Pacific road has received 250,000 cases of salmon this year to Nov. 1, and further shipments will come to hand before the close of navigation.

The head of the lakes freight line association held its annual meeting here this week when the freight situation was fully discussed. The members are: F. M. Guthrie, Lehigh Valley line; Frank Fairchild, Erie line; Edward H. Eden, Delaware & Lackawanna line; Frank Davidson, Wisconsin Central line; Harry Hurdon, Reading Despatch line; M. J. Allen, Baltimore & Ohio line; Charles O. Applehagen, Empire Fast Freight line; Daniel Christie, Star Union line; and S. J. Bigelow, Blue line.

Duluth grain shippers assert that they do not now expect much of a rush of grain out of that port before the closing of navigation this year. Despite the fact that the storage rooms there will be increased from 20,000,000 to 30,-000,000 bushels during the winter, it is expected by grain men there that it will be filled by the opening of navigation next spring. If the present fine weather continues the ore shipments from Duluth for November will break all records. Steaming is resorted to keep the ore from freezing in the pockets of the ore docks. It is expected that the total shipments of ore from Duluth for the month will be 600,000 tons and from Two Harbors about 300,000 tons. The recent slump in freights has brought out several blocks of ore that that otherwise would not have been shipped until next season.

The head of the lakes railroads are said to be much concerned over the prospective shortage of grain elevator capacity for the coming winter. The comparatively small movement of grain to Duluth this fall is supposed to foreshadow a big volume of grain to be moved this winter. Unless there is something done to relieve the situation the elevators at the head of the lakes will probably all be filled by Jan. 1. There was nearly 8,000,000 bushels of wheat in store last Saturday, together with about 3,000,000 bushels of other grain. With the close of navigation only two weeks off the situation is unusual and unless something is doue to relieve the situation the prospects of an early filling of the storage capacity is assured. The idea now is to have several big fleets winter here so that they can be made warehouses of. The elevators can receive all the grain that comes along if terms can be made with vessels for winter storage and spring delivery at Buffalo and in connection good fair rates are to be offered. The Bessemer line is mentioned as a good fleet to lay up here for this purpose.

A DISPATCH from Montreal says that the suspension of the coasting regulation upon the upper lakes has already resulted in the diversion of trade from Buffalo to Canadian channals. Instead of only a fifth, or less, of Canadian wheat being shipped by Canadian routes, as heretofore, it is not too much to expect that in a year or two every bushel exported from Manitoba and the Northwest will be handled by Canadian railways. C. P. R., of course, has still its share of the business from Fort William, but the suspension of coasting regulations is throwing a vast amount of business into the hands of other roads as well. This testimony of the Montreal Corn Exchange is, therefore, the justification of the action of the government in that regard.

BUFFALO.

Special Correspondence to The Marine Record.

A new fire boat for Buffalo will be built at the Union Dry-dock Co., for $91,000. This boat is to eclipse anything ever built for extinguishing fire.

The steamer C. H. Bradley, with a cargo of lumber for Tonawanda, grounded on Monday on a new reef in Niagara river just below Squaw Island. It is claimed that the reef has been formed by the dumping of dredgings in the channel.

The steamer Denver, which struck a rock near Bar Point on her down trip last Saturday and went into dry dock here, completed temporary repairs and proceeded to Erie, where she will take a cargo of coal for Milwaukee. At the latter port permanent repairs will be made.

The Tonawanda Iron & Steel Co., has bought the wooden steamer John F. Eddy from A. McVittie, of Detroit and others. The price was not given out, but it was about $65,000, she is rated for insurance purposes at $70,000 and classed A1½*. The Eddy was built by the Detroit Dry Dock Co. in 1886.

Capt. J. S. Dunham, of Chicago, was in the city this week and I heard it said that he might make a combination with the Maytham line and again enter the towing business in Chicago against the syndicate that practically forced him to sell out there. Dunham is a tugboatman or nothing, besides he is very wealthy and could put up a good fight against the syndicate known as the Great Lakes Towing Co. The big tug Lutz has left here for Chicago.

The Anchor Line has notified shippers that it withdrew westbound lake and rail rates from New England points via both Buffalo and Erie routes to all western points at the close of business Friday, and that it will withdraw the rates from New York, Philadelphia, Baltimore and common points to Duluth, West Superior and point via those ports at the close of business Saturday; from New York, Philadelphia, Baltimore and common points to Chicago, Milwaukee and points via those ports at the close of business Saturday, Nov. 25.

An editorial note in the American Elevator and Grain Trade, a journal in its 18th volume, and published as the official paper of the Illinois grain dealers' association, says this week: "Buffalo confesses to 'some detention of grain-laden boats,' but protests that 'the stoppage has been caused through lack of cars and not enough Erie canal traffic.' But as at that time the storage capacity of Buffalo was 20,000,000 bushels, while there were only 4,700,000 bushels in store, it puzzles a common mathematician to understand how Buffalo can be blockaded. Under the circumstances, the charge of the vesselmen is not impertinent that the elevators at Buffalo are apparently being manipulated in the interests of the railroads, for certainly a true blockade should not be possible until the elevators could hold no more grain. Need Buffalo be reminded that the new Soulanges canal and the possibility of the building of a modern elevator at Montreal may so modify future conditions that they will need something besides railway influences alone to maintain their business after this season closes?" There may be something in the above criticism, and if so it is our duty to look closely into the matter.

SAGINAW.

Special Correspondence to The Marine Record.

The steamer Pioneer put in a new boiler this week and will soon be ready for business again.

Messrs. Wicks Bros., of this city, have sold to Frank W. Wheeler their fine steam yacht Catherine.

The last lumber fleet of the season from Duluth is now unloading here, but expects to make several trips to Ohio ports yet.

Inspector Horace Smith, in charge of dredging here, states that the "digging" will be kept up until ice stops the work.

The steambarge City of Mt. Clemens is still making her weekly trips, stone in and salt out; as also is the W. P. Thew with package freight.

The old E. Y. Williams mill, the first mill the vessel men used to see on coming into Saginaw river, is no more, having burned to the ground on Thursday last.

Capt. Marion De Land has bought the tug Charles J. Gnewuch from A. O. Wheeler, of Manistee. She will take the place of the tug Robt. Boyd, at Tawas, for harbor towing.

B. H. Muhle, United States engineer in charge of this district, has invented and patented a hydraulic dredge, which he may use on Saginaw river sand bars which form each spring. His main idea is to do away with considerable dump scow work by pumping the sand to the low lands.

Isaac Bearinger also tells me he has just got his cash from the United States Coast Survey for his yacht Wapiti, which has been on sale at New York, for some time. Mr. Bearinger says his new yacht will run on wheels, and his first trip will be to Old Mexico this winter. "Ike" never did like water.

THE torpedo boat Talbot, which was equipped recently for the burning of petroleum for fuel, has passed all the regulation tests in a satisfactory manner. She is now ordered to join the North Atlantic squadron for an extended sea trial under practical conditions.

DETROIT.

Special Correspondence to The Marine Record.

Cept. John Parker, now living at Ontonagon, Mich., aged 78 years, claims to be the oldest living shipmaster who sailed on Lake Superior as far back as 1847.

Capt. J. W. Westcott will remain in Detroit until after the meeting of the Lake Carriers' Association in January, and will then probably take a vacation the balance of the winter season.

Norman B. Conger, the weather bureau official, has been inspecting the Sturgeon Bay, Wis., signal station, and recommends that electric lights be used in the place of old lamps at that port, also that a signal station be established at Hedgehog harbor in Death's Door passage.

The Detroit Ship Building Co. will have the yards at Wyandotte in full swing this winter, the large steamer built to the order of Detroit capitilists, (The American Steamship Co.,) was launched on Saturday, and the handsome speedy passenger steamer Tashmoo will be launched about December 1. Work will then be pushed on three steamers two of which will be 450 feet keel built to the order of Eddy Bros. Bay City, and the third for the Carnegie syndicate is to be 475 feet in length. A Brown hoist and other mechanical facilities recently added to the equipment of the shipyards will greatly assist construction.

Capt. Michael B. Kean, one of the old-time vessel owners of Detroit, died at his home, 359 Fort street west, on Monday morning, from the effects of a stroke of paralysis received three weeks ago. Up to that time Capt. Kean, who was 76 years old, had enjoyed the best of health. Coming to this country when a boy, the captain got his education at night, working on a farm by day. He bought one small boat, saved and bought more, and finally became associated with Capt. Eber Ward, Capt. Grummond and others, in the large fleet of tugs that used to hail from Detroit in the schooner days. He was president of the Lake Superior Transportation Co., as well as the tug line, as the tugs fell into disuse and the wooden vessels were succeeded by steel boats, the old vessel man made no effort to keep up his fleet, but retired to the quiet of his home more than 10 years ago. Capt. Kean leaves a widow and three children, Louis H. of 1914 Jefferson avenue; Edward L., of the United States fish commission at Washington, and a daughter.

CLEVELAND.

Special Correspondence to The Marine Record.

The gas buoys in Pelee Passage have been replaced by spar buoys.

Capt. J. S. Dunham, Chicago, was here for a couple of days this week and is still here.

The steamer Pease, lately sunk at Ashtabula, through running into a pier, is here to undergo survey and final repairs. It is quite likely that the Pease will not go into service again this fall.

The little schooner Maple Leaf, Cleveland to Rondeau, Ont., with oil, got caught in the blow last Friday. Capt. Robson and his brother Evan were washed overboard and drowned, The vessel was picked up and taken into Port Stanley on Monday.

Speaking about W. J. Conners, of Buffalo, and his efforts to make a St. Lawrence route for the shipment of grain, a vesselowner told me this week that it was a good thing and that Conners should be credited with trying to break dowu the canal and railroad monopoly at Buffalo. It is denied, however, that all the franchises he desired have been granted.

Circulars have been issued by the C. & B. line to connecting lines, agents and shippers as follows: "All freight for shipment via the Cleveland and Buffalo Transit Co. and its connections must be delivered to this line at Cleveland not later than Wednesday, Nov. 29, and at Buffalo not later than Thursday, Nov. 30." Those are the closing dates of the season.

Capt. Dunn, of the Canadian fishing cruiser Petrel, is closely watching the gill net fishermen who have set their nets in the waters around the islands. He has informed the fishermen that he will mark the boundary line by placing buoys in the lake, east of Kelley's Island, and warns them that if they place their nets north of the line he will confiscate the twine and also the boats if he overtakes them in Canadian waters.

Names have been selected for all three of the new Rockefeller steamers that are to go into service on all the lakes next spring. It was decided some time ago to give the names Gen. Orlando M. Poe and Robert W. E. Bunson to two of these vessels. Now it is announced that the third vessel will be named Charles R. Van Hise, in honor of the professor of geology and minerology at the university of Wisconsin, who had much to do with the discovery and development of the iron mines of the Lake Superior region.

The Pennsylvania Company is making very extensive improvements to its dock facilities at this port. Recently the company has been filling up the lake frontage of its property, and has given the privilege to J. W. Ellsworth & Co. to erect an unloading machine on the improved property. The machine will be one of the most modern in the trade and will be of great advantage in the loading of coal into vessels for the lake trade. It is expected to have the improvements all finished before the opening of next season's business. The trade was handicapped this year on account of the limited facilities for the rapid unloading of coal from the cars into vessels, and the added equipment now being put into position by the Ellsworth Co. will therefore be highly appreciated.

FLOTSAM, JETSAM AND LAGAN.

Capt. Deland has bought the tug Charles J. Gnewuch from A. O. Wheeler, of Manistee, and will use her as a harbor tug at East Tawas.

The Canada Atlantic Transportation Co., of which J. R. Booth of Ottawa is president, will add four steamers to the fleet for next season.

Marine City dock owners are hustling for boats to tie up at their dockage this winter. Already the steamer George King and consorts Teutonia and Gawn have laid up there.

Captain Charles E. Young, formerly lightkeeper at Algoma, has been appointed to succeed Captain Hans Hansen as keeper of the light and fog signal station at Menominee.

A statement is being prepared at Chicago by Lieut. Gelm of the naval hydrographic office, for lake mariners, showing the average date of the formation of ice on the lakes, and its maximum thickness.

During the winter the Canadian passenger steamer Carmona will be rebuilt at the Collingwood, Ont., drydock. When the work is completed she will be practically a new boat and will be renamed.

The field surveys for the Montreal, Ottawa and Georgian Bay canal have been completed. The cost of construction is estimated at $22,000,000. The Canadian government will be asked to guarantee 2½ per cent interest on bonds for that amount.

General Thomas W. Hyde, the shipbuilder, principal owner of the Bath, Me., Iron Works, who has been sojourning at the Chamberlain Hotel, Old Point, with his family for some time, died Tuesday afternoon. A stroke of apoplexy was the immediate cause of his death.

It seems that the syndicate of Vera Cruz merchants has decided not to take the floating dry-dock at Havana, Cuba, owned by the Spanish government. It has been offered three times for sale at auction, but without success. The Spanish government has decided to tow it back to Spain, as the dry-dock is worth about a half million dollars. Capt. Peral, of the Spanish navy, has completed arrangements for its removal, and will probably leave with it before the end of the month.

Shipbuilding invades the south gradually. Trigg & Co., of Richmond, Va., have just completed a torpedo boat for the navy, and have another on the ways. The same firm will get at least two of the new cruisers to build, bids for which were opened at the naval constructor's office on the 4th of November. The company was the lowest bidder on all six of the ships, but the law will not allow any one yard to build more than two. This young Southern company is making a high reputation and rapidly going to the front as a competitor with the oldest and most popular yards in the country.

The discredit cast upon the merchant marine by the brutality of the crews in some recent casualties will soon be wiped out, if there are more instances like the following: The Russian steamer Ceres, on Nov. 16, sighted the Hamburg American line steamer Patria on fire near Dover, England. The Ceres arived just in time to rescue the passengers from the boats, which it had been necessary for them to enter in their night clothes. Although there was great danger the crew preserved perfect discipline and not a passenger was lost. The captain and most of the crew stayed on the vessel, making an attempt to beach her.

A number of large schooners have already been built in Maine this year, and a great many contracts have either been made or are now pending for new vessels, mostly large schooners, among which may be mentioned the following: Six-masted schooner, of about 2,700 tons net, at Camden, for Capt. John B. Crowley, and others at Taunton Mass.; six masted schooner of about the same size, at Bath, by N. T. Palmer; five-masted schooner of 1,800 tons at Waldoboro; two five-masted schooners at Bath; four barges, a tow boat and a four-masted schooner at Bath, by Kelley, Spear & Co.; schooner of 275 tons at Phippsburg; two tugs, a United States monitor and a steam yacht at Bath, by the Bath Iron Works; steel bark by the same concern; four-masted schooner at Rockland; a four-master and a five-master at Camden; four-masted schooner at Thomaston; three-masted schooner of 500 tons at Milbridge. These vessels, exclusive of the United States monitor, represent about 224,000 tons.

Between the 18th and the 27th of January last ten "tramp" cargo steamers left various points on the eastern coast of the United States, bound across the Atlantic for ports in the British Isles and Western Europe, to be heard of no more. Of these vessels the Port Melbourne was the largest and finest. Next in order came the Arona, the Allegheny, and the City of Wakefield; the rest being all ordinary-sized cargo vessels, registered at an average gross capacity of 2,500 or 2,600 tons. Since the dates of their departure not a single trace or vestige of any of the missing vessels has been found, although they were overpowered and lost in one of the most frequent parts of the ocean. They were apparently not sunk by collision or stranded upon any coast. Had either of these mishaps occurred some clue as to their fate would certainly have been found. The probability is that they were caught by the terrible storms which, during the latter days of January and the beginning of February, raged over a large and well-defined area of the mid-Atlantic, and were unable to cope successfully with them. Following practically the same route toward the western entrance to the English Channel, it is likely that they all foundered at about the same time and within a few miles of each other.—Capt. A. G. Froud, in The Forum.

THE WORLD'S TONNAGE—ANNUAL REPORT OF THE U. S. COMMISSIONER OF NAVIGATION.

WASHINGTON, D. C.

Special to The Marine Record.

The annual report of Mr. Chamberlain, the Commissioner of Navigation, shows that American shipping industries shared in the general prosperity of the country during the past fiscal year. The returns disclose more satisfactory conditions than those of any former year in the Bureau's history. The total documented tonnage on June 30, 1899, comprised of 22,726 vessels of 4,864,238 gross tons, which is our largest since 1865. The tonnage operating under our coasting laws, 21,397 vessels of 4,015,992 gross tons is the largest in our history and greater than the coasting tonnage of any other nation. Our steam tonnage, 2,476,011 tons, for the first time exceeds the tonnage of all other craft. In the rest of the world steam tonnage eleven years ago exceeded sail tonnage. Our tonnage registered for foreign trade remains small, and last year American vessels carried a fraction less than 9 per cent. of our exports and imports, the smallest percentage in our history. Based on Bureau Veritas returns, the world's seagoing sail tonnage in the past quarter of a century has decreased from 14,185,836 tons to 8,693,769 tons, a decrease of 40 per cent. The decrease in the United States has been at the average rate. The world's seagoing steam tonnage in the same period has increased from 4,328,193 tons to 18,887,132 tons, or 336 per cent. The phenomenal increases have been Norway's over 1,400 per cent. and Germany's nearly 700 per cent. The increase of the United States has been only 68 per cent. and the increase of American steam tonnage registered for foreign trade on the Atlantic and Gulf coasts has been only 38 per cent. The development of Alaska within the past few years has caused a rapid increase in Pacific coast tonnage. Within the past 20 years the United States in seagoing steam tonnage has dropped from the second place next to Great Britain to the fourth position, below Germany and France, and if steamships in the foreign trade alone are considered, below Norway and Spain, and only slightly ahead of Japan. The report reviews briefly the legislation of other nations in behalf of their merchaut shipping, showing that last year European nations and Japan expended over $26,000,000 to promote it in various forms, while the United States spent only $996,211. On their steamship lines to China and Japan foreign nations expended about $5,000,000, while for the same purpose the United States expended less than $49,000. The establishment of two or more fast American steamship lines on the Pacific coast to connect with Asia, will furnish the capitals of western Europe with closer mail and passenger connections by from three to five days than is now possible by the heavily subsidized British, German and French steamship lines through the Suez canal.

The reasons which impel other nations to develop their merchant shipping, says Mr. Chamberlain, apply with equal force to the United States. Among them are first, the relations of the navy to the merchant marine as an element of national defense; second, relations of a merchant marine to insular territory; third, its relations to new markets in Asia, Africa, Australia and South America; fourth, the necessity for the best ocean mail facilities under the flag; fifth, the relation of the merchant marine to exports and imports and the value of the carrying trade, and finally, the promotion of shipbuilding and contributory industries. By various methods of computation the annual value of the ocean carrying trade of the United States is estimated at about $175,000,000, including passenger and immigrant fares and payments for ocean mails to and from the United States. The argument that American shipping in the foreign trade is handicapped by tariff duties is met by reference to progressive legislation beginning in 1872, by which for the last five years all materials for the construction of American vessels in the foreign trade and all supplies for such vessels have been exempt from duties. Tonnage taxes which are imposed equally on foreign and American vessels are the only form of federal taxation on American shipping. The proposition to repeal tonnage taxes would, therefore, in effect be equivalent to a bounty of about $750,000 annually to foreign shipping and would relieve American shipping of only $80,000 of taxes annually.

The report then takes up the five methods which have recently been suggested for the promotion of the American merchant marine. It is pointed out that discriminating duties on cargoes in foreign vessels or on the tonnage in foreign vessels are an impracticable remedy on account of the provisions in our treaties with nearly all the nations of the world, prescribing equal treatment for foreign and American vessels in the matter of duties and charges. The same objection also applies to the proposition to grant bounties on exports in American vessels, as by the terms of our principal treaties we are obliged to grant the same bounties on exports in foreign vessels as in American vessels. The proposition to grant American registry to foreign-built vessels in the foreign trade is not regarded as feasible in view of the unanimous rejection of that proposition four years ago by the Senate Committee on Commerce, and on account of the fact that American ship owners and ship builders are united in opposition to that measure. It is also pointed out that regardless of the merits or demerits of the proposition, its adoption would probably disappoint its advocates in view of the fact that the cost of operating vessels under the American flag is concededly much greater than the cost of operating foreign vessels. The adoption of the free ship policy by Great Britain has not contributed in any way to her maritime development as vessels for many years have been built more cheaply in Great Britain than elsewhere, and in point of fact, vessels built outside of Great Britain are seldom registered under the British flag, with occasional exceptions in the colonies. The success of the free ship policy in Norway and other Scandinavian countries is due to their very large maritime population, which renders it necessary for the governments of those countries to encourage the purchase of vessels built in Great Britain in order to afford employment for their seamen. Even then the tonnage under the Norwegian flag is insufficient to furnish employment for Norwegian sailors, who constitute a large part of the crews of British vessels and of American vessels, both in the coasting and in the foreign trade. The rates of wages paid to Norwegian sailors are much lower even than those paid on British or German vessels, and the general cost of operating vessels under the Norwegian flag is less than under the British flag. These conditions, none of which obtain in the United States, have rendered the adoption of the free ship policy by Norway a national necessity. The conditions in Germany, in so far as the cost of operating vessels is concerned, are analagous to those of Norway, and up to 1885 there were very few ocean steamships under the German flag built in Germany. The development of German shipyards since 1885 is attributable in part at least to legislation advocated first by Prince Bismark, through which a heavy subsidy was granted to the North German Lloyd Steamship Co. which owns all but four of the fast steamships under the German flag and to the German law by which materials for steamships are carried on the government railroads at low rates of freight. The proposition to develop the merchant marine through ocean mail subsidies is only a partial solution of the question. While the need of at least two fast mail steamship lines to Asia and one to South America is indisputable, the establishment of such lines would not suffice to put our navigation and shipbuilding on a satisfactory basis.

The report in the main is devoted to a consideration of Senate Bill 5590, reported by Senator Frye at the last session, as a substitute for the bills introduced by Senator Hanna and Representative Payne. It is pointed out that the maximum expenditure under that bill for any one year is fixed at $9,000,000, from which, however, should be deducted $1,500,000, the present cost of carrying our ocean mails on American vessels, which will continue whatever the fate of the bill may be. The actual maximum annual expenditure proposed by the bill is thus in effect fixed at $7,500,000. Assuming that all our vessels registered for foreign trade were fully occupied throughout the year, at the present time the next expenditure under the bill would be in round numbers $3,000,000. Before the maximum is reached the capacity of our shipyards must be increased many times, and the tonnage under our flag engaged in the foreign trade multiplied several fold. This increase in the capacity of our shipyards and in our tonnage in foreign trade will show ability on our part to compete on more nearly even terms with foreign nations. The pro rata reductions in compensation provided for when the maximum expenditure of $9,000,000 is reached will thus coincide with the lessened need of government assistance. During the decade ending 1898 our shipyards produced only 213,000 gross tons of ocean steamships, while in the same period German yards turned out 850,000 gross tons, and British yards 9,680,000 gross tons. The difference in the cost of construction and operation of American and British vessels is considered in some detail. It is also pointed out that of the 362 steamships of 14 knots or over now in existence in the world, over 80 per cent. are receiving in one form or another assistance from the government to which they belong, aggregating upwards of $20,000,000. This is deemed justification for the proposition in the bill to give a distinct allowance to American steamships of 14 knots or upwards. Comparison is made at length between these special rates under the bill with the eight principal British ocean mail contracts, and it is shown that while the British mail contracts involve the annual payment of $3,900,000 the payments under this bill designed as an offset to the British payments for similar services with similar vessels under the American flag would be $3,580,000. The bill would be inadequate if it were proposed to parallel British lines, especially those to Asia and Australia. The American lines which will be established under the bill, however, to those quarters of the globe will not be compelled to pay Suez canal tolls, and the compensation proposed will thus be adequate. Comparison is also made in detail with the new North German Lloyd subsidy of $1,320,000, and it is shown that corresponding American steamships under this bill would receive $1,295,000 though the cost of building and operating the German steamships is much lower than the corresponding cost of American vessels.

Full official tables of the wages on American and British vessels are printed and to elucidate the conditions the monthly pay-roll of five steamships each of about 2,500 gross tons is printed in full; the American Cherokee's roll being $1,385, the British Critic $852, the German Sonnenburg $646, the Dutch Teutonia $554, and the Norwegian Fortuna $511.

The report also recommends moderate increase in our tonnage taxes, equalizing them with those imposed at the principal European ports; favors the passage of bills applying the laws of the United States relatlve to commerce, navigation and merchant seamen to Hawaii and Porto Rico, thus bringing those islands under the coasting laws of the United States. It is recommended that vessels owned by Cubans be placed by law on an equality with vessels belonging to the most favored nation. Under an existing statute it has been necessary to impose a tonnage tax of $1 per gross ton—practically prohibitory—upon such vessels, and this injustice, both to ourselves and the Cubans, can be remedied only by legislation. Under the so-called White Bill for the protection of seamen, American sailors now enjoy a larger degree of personal liberty than ever before and much more than the seamen of any other nation, that law radically changing the nature of the seamen's agreement. Reports from shipping commissioners show that the allotment sections have been of decided benefit to seamen and that efforts to break down these sections during the spring and early summer have failed and the law is in the main successfully enforced. Attention is directed to the menace to navigation resulting from long tows of coal barges along the Atlantic coast, especially at New York, Boston and other important harbors, and of the large timber rafts on the Pacific coast. Besides the usual tables the report contains a list of the world's fast steamships and of American steamships registered for foreign trade at the end of the fiscal year, and tables showing the distances between the seaports of the United States and the principal seaports of the rest of the world.

VISIBLE SUPPLY OF GRAIN

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	858,000	360,000	687,000	155,000	838,000
Chicago	13,747,000	2,588,000	1,152,000	342,000	61,000
Detroit	778,000	119,000	2,000	11,000	20,000
Duluth	7,564,000	77,000	285,000	307,000	507,000
Fort William, Ont.	1,638,000	.....	.....	.....	.....
Milwaukee	173,000	2,000	3,000	4,000	1,000
Port Arthur, Ont.	100,000	.....	.....	.....	.....
Toledo	2,102,000	1,084,000	548,000	8,000	.....
Toronto	44,000	.....	4,000	.....	60,000
On Canal	672,000	611,000	127,000	67,000	402,000
On Lakes	1,568,000	456,000	694,000	148,000	458,000
Grand Total	54,001,000	11,060,000	6,125,000	1,362,000	3,119,000
Corresponding Date, 1898	21,392,000	23,238,000	5,756,000	1,021,000	3,784,000
Increase	1,439,000	.....	.....	111,000	478,000
Decrease	.....	849,000	581,000	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

ANNUAL MEETING OF NAVAL ARCHITECTS.

The seventh general meeting of the Society of Naval Architects and Marine Engineers which began in the library of the American Society of Mechanical Engineers, New York, on Thursday last, as duly announced in these columns, was attended by more than 100 experts in the art of marine construction and engineering from all parts of the country. The topics considered were of greater interest than those discussed during the six previous gatherings of the organization, and owing principally to the work done by the navy during the late war with Spain the warship and her construction were features of the discussion.

Among the members of the society present were George W. Dickie, manager of the Union Iron Works at San Francisco, who superintended the construction of the battleship Oregon; W. I. Babcock, of Chicago; Capt. Ottley, British Navy; Capt. Von Paschwitz, German Navy; Col. E. A. Stevens, Lieut. Lewis Nixon, U. S. N.; Mr. Horace See; Naval Constructors W. L. Copps, Francis T. Bowles, J. J. Woodward, and W. J. Baxter; W. M. McFarland, W. P. Stephens, M. Dougherty, electrical experts for the Cramps' Ship Building Co.; John Hyslop, official measurer of the New York Yacht Club, and Capt. Randall, of the steamship St. Louis.

In the absence of President A. Griscom, Rear Admiral Bunce, U. S. N., retired, presided. The president's address called attention to the work of the society and its influence on naval architecture. After it was read the following officers were elected for the ensuing year:

President, Clement A. Griscom; first vice president, W. T. Sampson; vice presidents, Francis M. Bunce, Charles H. Cramp, Frank L. Fernald, Philip Hichborn, Charles H. Loring, George W. Mellville, George W. Quintard, Irving M. Scott, Edwin S. Stevens; secretary and treasurer, Francis T. Bowles.

The most interesting essay of the day, from the point of view of a layman, was that entitled "Suggestions as to improved Appliances for Launching Ships' Boats," read by John Hyslop. The subject is a serious one for the consideration of all who go down to the sea in ships, and Mr. Hyslop spoke from actual experience. He was one of those saved from the wreck of the liner Mohegan scarcely more than a year ago. He called particular attention to the difficulty of launching boats in rough water and in darkness. He said in part:

"It is a characteristic of the present time which forces itself upon the attention and into the recognition of the least observed, that the most marvelous productions are simply in line with expectancy, and scarcely any longer excite wonder or admiration. The question has no doubt occurred ere this to the mind of many, wherein is the difficulty? And some may say, 'I have seen boats put afloat from a ship's deck within three minutes from the time when the order was given.' This is quite true where all conditions are favorable—where it is daylight and everything is in plain view, where the ship is neither rolling nor listed to starboard or port, where, perhaps, only one boat has to be launched, and this one handled exclusively by sailors; but the impression gained by any such experience is apt to be misleading, and it has, I feel assured, misled many who have an interest in such matters.

"Where it is expected that heavy boats will have to be used with any frequency at sea, it is, I think, safe to say, that no reliable means of launching them is in vogue. It would be regarded as a novelty to see a whale ship fitted with special davits. While it is not to be expected that Atlantic liners shall be fitted with whaleship's davits, it appears both interesting and instructive to inquire how far it is practical to carry ship's boats inside the lines of a ship's sides, and yet at all times outside the davits; and also to inquire if any better means can be used to operate and control the present common form of davit.

"To my mind a form of davit that will permit the boat's being kept inboard but yet is always outside the davits is what is needed, and gravity alone will carry the boat outward, ready for lowering, when the ship is on an even keel or only moderately listed, and when more extremely listed any force used to overcome this is more easily and much more effectively applied."

Mr. Hyslop illustrated his idea with a model that worked well and quoted examples of boats on one of the Atlantic liners where such a system was used with excellent results.

Capt. James R. Raymond, inventor of an automatic appliance for lowering boats that has been adopted by the Navy, Revenue Marine, and Army Transport Service, commented on Mr. Hyslop's paper, and Capt. Randall, of the St. Louis, also spoke on the subject. He said that saving life was of paramount importance, and he believed that the best appliances to that end should be made a part of the equipment of every ship.

A paper on coaling vessels at sea was read by Spencer Miller. He discussed Lieut. Bell's plan for coaling the royal squadron in the open sea by boxes that traveled on a line from collier to war vessel. Mr. Miller also spoke of the difficulty experienced in coaling our ships during the late war with Spain, and quoted experiences in the navies of other nations. He suggested a scheme for coaling at sea that was the outcome of some personal experiments that apparently possessed merit, and which is in use at present on some merchant vessels.

The subject of Engineer-in-Chief George W. Melville, United States Navy, which followed, was read by Mr. McFarlane. It was on the "Causes for the Adoption of Water-Tube Boilers in the United States Navy." The Engineer-in-Chief says, in part:

"The fact that water-tube boilers raise steam quickly is of the greatest advantage. I have stated elsewhere that I consider the battle of Santiago to have developed the necessity of the use of water-tube boilers whether it taught us anything else or not. It would have been of the greatest advantage to have had, during the blockade of Santiago, boilers capable of raising steam in less than half an hour. Coal need not have been used to keep all the boilers under steam all the time. The Massachusetts might have shared in the glories of the fight if she had been fitted with water-tube boilers. The Indiana would have kept up with the Oregon and Texas. The New York would have developed at least three knots more speed and the navy would have been spared a controversy. I think the Colon would not have gotten as far away as she did. But we did not have the water-tube boilers."

Messrs. See, Dickie, Pratt, and others participated in the discussion on the paper, and F. L. Du Bosque, assistant engineer of the floating equipment of the Pennsylvania Railroad, presented some interesting data as to the work of water-tube boilers on ferry boats.

Naval Constructor J. J. Woodward, of the Norfolk Navy Yard, also spoke in favor of the march of progress as exemplified by the tubular boilers as compared to the Scotch type.

"The electric plants of the battleships Kearsarge and Kentucky," by Naval Constructor Woodward, which followed Mr. Hyslop's paper was an exhaustive recapitulation of the work that has been done on the two latest war vessels in the American Navy, and was illustrated by a score of diagrams and drawings.

It was commented upon by several of the naval officers present.

George W. Dickie read a paper on "The Increasing Complications in Warships and how Simpler Arrangements Might be Adopted." Mr. Dickie is an authority on the subject. He said:

"The subject of this paper has occurred to my mind every time I have been asked to contribute anything to the transactions of this and kindred societies. During the past two or three years I have had occasion to refer to it several times, while presenting other subjects, but have never felt bold enough or skillful enough to undertake the task of showing the possibility of a much simpler arrangement of means for performing all the varied and complicated functions that must be performed by mechanical apparatus on board a modern warship.

He compared the weight of the boilers and machinery of the battleship Wisconsin with those in a steamer in the merchant marine, and also spoke at length on the system of drainage that is in vogue on the greater number of war vessels, the pumps used, and the varied manner in which they are abused. He then outlined an ideal arrangement, which would do away with some forty pipes that are connected with as many pumps on an up-to-date ship.

GENERAL OTIS is quoted by a correspondent as speaking highly of Admiral Watson's work. He said it would be impossible for the entire American Navy to guard the whole of the Philippine coast, which covers 5,000 miles, but the naval force now here was doing superb work. The gunboat Helena alone on a recent cruise destroyed nineteen insurgent vessels. At the present time there is the closest co-operation between General Otis and Admiral Watson.—The Army and Navy Journal, New York.

LITERARY NOTICES.

"A Green Mariner," by Howard Ireland, is the title of a new book reciting a landman's log of a deep sea voyage. The J. B. Lippincott & Co., Philadelphia, Pa., are the publishers.

The Cosmo politan for November is an unusually fine number. Among its list of contents will be found an interesting article entitled "In the Engine Room of a Warship," by H. Webster, Commander, U. S. N. It is fully illustrated with reproductions of photographs.

"The Shellbacks," by Alex. J. Boyd, just published by Brentano's, Union Square, New York, is a story of sea life before the mast on an American ship in the sixties. It is edited by Archie Campbell, with an introduction by Morgan Robertson, the latter gentleman expatiating upon the despotic cruelty which he alleges has always characterized and been typical of the officers of American sailing ships.

Up to Nov. 1st, the enormous number of three million copies of "Black Beauty," by A. Sewall, have been sold. The book, a correspondent suggests, should be placed in the library of every American merchant ship and war vessel, as it teaches kindness and mercy to the weak and helpless. The publisher is Geo. T. Angell, 19 Milk St., Boston, Mass. The price of this remarkable book is $1, bound in cloth, or 10 cents in paper cover.

Key to Engines and Engine Running, being a treatise upon the management of steam engines and boilers for the use of those who desire to pass an examination to take charge of an engine or boiler, by Joshua Rose, M. E., published by D. Van Nostrand Co., 23 Murray and 27 Warren Sts., New York. New edition price $2.50. This work, 8 by 5½ inches, containing 400 pages with illustrations, is a valuable one. In the preparation of the volume the author has aimed to confine its contents to matters pertaining strictly to the engine room, and to present each subject so that the student could readily understand it without the aid of a teacher. Consideration has also been given, not only to the importance of the matter, but also to the difficulty that many are apt to encounter by reason of a limited education. The volume should be in the hands of those entrusted with the running of engines and the care of boilers, as the valuable information contained therein is worth many times the price of the work.

In Mr. George Gibb's third sketch of "Great Naval Battles" in the November New Lippincott, he sums up the last victory of "Old Ironsides" and relates the following incident, in which the gallant Stewart rises to the occasion superbly: "It was a wonderful battle. In a fight between one sailing ship and two the odds were fourfold on the side of the majority. For it was deemed next to impossible to rake without being doubly raked in return. This obvious disadvantage was turned by Stewart to his own account by what critics throughout the world consider to be the finest manœuvring ever known in an American ship in action. He fought both his broadsides alternately, and luffed, wore, or backed his great vessel as though she had been a pleasure boat. Neither of his adversaries succeeded in delivering one telling raking broadside. She seemed to be playing with them, and skilfully presented her reloaded guns to each vessel as it attempted to get her at a disadvantage. The larger vessel was discovered to be the Cyane, 32, Capt. Gordon Falcon, and the smaller one the sloop-of-war Levant, 21, Capt. George Douglass. The Constitution had fifty-one guns, while the Englishmen had fifty-five; of the Constitution's crew but four were killed and ten wounded. On the Cyane and Levant thirty-five were killed and forty-two were wounded. After the battle, while the two English captains were seated in Steward's cabin dining with the victor, a discussion arose between them in regard to the part each had borne in the battle, while Stewart listened composedly. Their words became warmer and warmer, and each accused the other in plain terms of having been responsible for the loss of the vessels. At a point when it seemed as though the bitterness of their remarks bade fair to result in blows, Stewart arose and said dryly, 'Gentlemen, there is no use getting warm about it; it would have been all the same, whatever you might have done. If you doubt that, I will put you all on board again, and we can try it over.' The invitation was declined in silence. For this gallant action Congress awarded Stewart a sword and a gold medal, and 'Old Ironsides' soon after the war was over was temporarily put out of commission. Her day of fighting was over. But years after, refitted and remodeled, she served her country in peace as gracefully as she had served it gloriously in war."

MARINE RECORD

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CLEVELAND, O., NOVEMBER 23, 1899.

THE City of Wheeling is to be the name of the new river steamer 165 feet long and 34 feet beam, to be built the coming winter by Mazingo Bros., Clarington, W. Va.

BOYNTON & THOMPSON have let the contract for rebuilding the wrecked steamer Harlem to the Craig Ship Building Co. of Toledo. The steamer will not be lengthened.

MARINE men are commencing a campaign against the Portage Lake bridge, between Hancock and Houghton, which is becoming a dangerous obstruction to the navigation of modern freighters and especially tows.

THE Bureau of Navigation at Washington has been informed that the Norwegian "flag law" of 1898, which in effect removes the symbol of union between Sweden and Norway from the Norwegian merchant flag, will go into force on December 15, 1899.

A CONTINUOUS toot of whistles. say four or any number above that, is an alarm, danger or distress signal, as understood on the lakes. The U. S. S. Michigan passes a vessel blowing such a signal and then claims ignorance of the common practice as an offset to her non-attention.

WE are now rapidly approaching the period of the year when the actual consumption of iron and steel in many branches of the industry falls off quite heavily, but preparations are usually made during this time to accumulate a supply for the spring trade, always the largest in volume of the year.

THE business men's association of Traverse City have forwarded to the Michigan senators a series of resolutions urging the construction of a breakwater to protect the harbor of that city. For some time past the subject has been agitated among local trade organizations, and all lake vessel interests have cordially approved the movement.

MR. ALLEN, the Assistant Secretary of the Navy, submits a very brief report this year on the work of the naval militia. prefacing that of Lieut. Comdr. Southerland's. He urges the adoption of a bill for a national organization. Lieut. Comdr. Southerland gives a table showing in detail the strength of each organization. The total is 492 officers and 6,302 men, a considerable increase over the previous year, New York leads with 59 officers and 932 men; Illinois is next with 52 officers and 775 men, and Massachusetts third with 614. The allotment of $56,000 was made in proportion to the State strength of each organization. Attention is called to the failure of Congress to adopt a scheme for the enroll ment and organization of a national reserve, and the necessity is urged of such legislation to place the State Naval Militia on a more solid basis.

SOCIETY OF NAVAL ARCHITECTS.

At the seventh annual meeting of the Society of Naval Architects and Marine Engineers held in New York November 16 and 17, very interesting papers were read on a variety of subjects. Spencer Miller, in treating of the coaling of vessels at sea, discussed various plans such as Lowry's, Bell's, Tupper's Low's, Walsh's and Niblack's, in all of which he found defects militating against their success. The difficulties of coaling at sea during the Spanish-American war and recent French experiments were dwelt on and Mr. Miller explained his device for coaling in which, he claims, a sea anchor maintains a constant tension on the endless cable.

Rear Adml. Melville, in a paper on "Causes for the adoption of water-tube boilers in the U. S. Navy," though declaring that such boilers are "bad in principle," said that it was with some misgiving that he considered water-tube boilers tactical necessities for warships. He hoped to see the day when boilers would have fire tubes and all the advantages of water-tube boilers. Though opposing until now their adoption by the Navy he thought the water-tube boiler must be used if we wished to keep up with other nations. The battle of Santiago, Admiral Melville believed, showed the necessity of water-tube boilers. Had the New York possessed them she would have gained three knots in speed and "the Navy would have been spared a controversy."

John Hyslop said better ways of launching ships' boats were imperative as no boat could be launched today with the speed required to make them efficient safeguards against loss of life. George W. Dickie explained how complications in warships are increasing and thought a central working passage for interior communication would operate in the direc- of simplification. H. F. Norton, in a technical paper discussed beam formulas, applied to vertically stiffened bulkheads. Naval Const. Lloyd Bankson, U. S. N., submitted notes on the sheathing of the U. S. S. Chesapeake. W. I. Babcock explained the system of work in a lake shipyard, a Chicago institution being selected for illustration. Overhead cranes and appliances were discussed by James Dickie; Rear Adml. Hichborn, chief constructor, U. S. N., in treating of the Denver class of cruisers, took occasion to say that the New Orleans is essentially a "show" vessel and her design is not one "that would be found emanating from the British Admiralty or from our Navy Department."

Asst. Nav. Constr. R. M. Watt, U. S. N., illustrated existing novelties in ship fittings and Prof. Cecil H. Peabody told of the progressive speed trials of the U. S. S. Manning, Lieut. A. P. Niblack, U. S. N., discussed the technical considerations involved in torpedo boat design. Bow torpedo tubes he regarded as a folly and favorably viewed the suggestion of Lieut Comd. Kimball, U. S. N., that a large depot steamer be used as a base for a group of seagoing torpedo boats. Prof. Wm. F. Durand read a paper on the action of the rudder. These essays were accompanied with diagrams and illustrations. Interesting discussions followed the reading of these papers. The proceedings closed with a banquet on Friday evening.

LAKE TONNAGE.

The annual report of the Commissioner of Navigation for the fiscal year ended June 30, last, shows that the total documented tonnage on that date comprised 22,728 vessels, of 4,864,238 gross tons. Of this the proportion sailing on the Great Lakes is well maintained, the report showing the number of vessels to be 3,169 as against 3,256 for the previous year, a loss of 87. The tonnage increased, however, from 1,437,500 to 1,446,348 gross tons.

Commissioner Chamberlain explains that the decrease in the number of vessels is due to the efforts of some owners on the lakes to take their vessels to coast ports. Other vessels have been lost and replaced by a smaller number of greater tonnage and consequently of greater carrying and earning capacity.

The average size of vessels on the lakes is shown to be almost double the average of those in other portions of the country. The average measurement of the lake vessels is 480 tons; on the Atlantic coast 160 tons; on the Pacific coast 260 tons, and on the rivers 200 tons.

Shipbuilding on the lakes enjoyed a boom during the fiscal year. Fourteen steam vessels were constructed and put in service. One was a side-wheeler of 747 tons, and thirteen were screw boats. They aggregated 42,891 tons. Cleveland leads in construction with ten vessels of 34,266 gross tons. Two were built at Detroit with an aggregate measurement of 4,402 tons. Port Huron registered 4,936 tons. Three sailing vessels, aggregating 10,488 tons, were built. These so-called sailing vessels are barges, ordinarily towed, but fitted with sails so that they may be navigated in event that they go adrift.

The documented vessels on the lakes are distributed by states as follows: New York, 852, of 271,301 tons; Pennsylvania, 57, of 39,257 tons; Ohio, 440, of 393,263 tons; Michigan, 1,022, of 400,782 tons; Illinois, 245, of 72,817 tons; Wisconsin, 319, of 89,565 tons; Duluth, Minn., 204, of 175,377 tons.

ALL of this talk about bad canned beef is chestnutty—we don't mean that the beef is chestnutty, but the talk is. In the over-sea merchant service it is always expected that after opening a case or two a few cans are to be thrown overboard. The simple question lays in the fact of the tins being hermetically sealed or not, sometimes, and we presume from a mechanical failure or the oversight of a workman, the sealing is not perfect; air penetrates, and later a moderate explosion occurs, or at least the tins become blown, hence, they are thrown over the side without any more ado. It is possible that some of our younger soldier boys and youths, tenderly reared, should have had nurses sent with them, in fact it was at one time suggested that a regiment of women should be sent to attend to their laundry, etc., but the proposal did not seem to carry full weight. War, naval or military, is not a charming picnic at any stage of the proceedings.

THE Civil and Military Gazette, of India, thinks that Admiral Hichborn's invention of an illuminated life buoy deserves greater publicity than it has received. "It would seem well worth the while of the large passenger steamship companies," says the Gazette, "to adopt such a useful life-saving device at sea, and it is, perhaps, a proof of British backwardness in availing ourselves of the inventions of other nations, that a couple of years should elapse before such an appliance is brought to public notice." It is also as well to observe that illuminated life-buoys are about half a century ahead of the present time, or in other words, the suggestion is about fifty years old and the device has long ago been perfected. A life-buoy thrown overboard at night can now show its location for several hours, so that the India Gazette simply points out its ignorance of this maritime subject.

AND now a number of journals are springing the old custom of salting wooden built vessels as an innovation. In the name of shipbuilding, in the fresh or salt water trade, where would unventilated timber be without salt? The firm of Troops, Nova Scotia, learned that salt eats away the fastenings and, therefore, tried the life of a wooden ship without salting her, they had the fastenings but had to get another hull to put them into. A case of cutting up a new pair of pants to mend an old pair with. Wood should be preserved, iron and steel can do with cement and paint in either fresh or salt water, but more necessary in the latter, in fact absolutely required.

THAT British cruiser off Delagoa Bay seems to be exercising the right of search without any declaration of a blockade to justify such a course. Wonder if the Britishers assume that the Africanders have the right to wage war, or is it only an insurrection. Britain seems not to have declared war but that country is as busy at war as it is possible to be. The territory of South Africa may possibly be subjugated under certain modifications. On the other hand it should be remembered that this is rather a land than a sea fight. The Britishers are surely a power on the sea but several nations could probably defeat them on land.

A NEW record in the building of warships has been made at the Devonport (England) dockyards. The first-class battleship Bulwark, of the most formidable class in the British navy, was ready for launching in seven months after work was begun on her. In that time over 5,500 tons of steel were built into the ship. She is 400 feet long, 75 feet beam, displaces 15,000 tons, and will have a speed of 18 knots.

THE International Pneumatic Tool Co., has been incorporated at Chicago, with a capital of $2,500 to manufacture pneumatic tools and other tools and machinery. The incorporators are Francis J. Sullivan, Agnes Sugnue and Webb P. Matthews.

POWER FOR SHIPYARD MACHINERY.

In the early days of iron shipbuilding the machine tools of shipyards were comparatively few and simple, mostly borrowed from boiler-shop practice. Since then shipyard machinery has been greatly specialized, and re-construction of plant has become necessary from time to time, in order to meet changed conditions. At first steam power alone was used. Now hydraulic, electrical and pneumatic power are used as allies to, or substitutes for, steam power.

Hydraulic power, as a rule, finds its most general use in cranes and other lifting appliances, as well as in powerful presses used for flagging, "joggling," punching out lightening holes, and other heavy work. It is also used for riveting work that can be brought to the machines, and to a limited extent for portable riveters.

Electrical power is being extensively used in some of the best equipped shipyards, apparently with satisfactory results. It is probable that the system will be much more extensively employed before long. For large machines with separate motors, and for groups of smaller machines, electric driving has much to recommend it. For operations that have to be performed *in situ*, portable electric machines are found most useful. As examples, reference may be made to electric drills, planers for wood decks, cutters for large holes in plating on sides or decks, caulkers, and riveters. In some cases, especially in eleborately fitted warships, it is found advantageous to establish on board temporary machine shops, which can be most conveniently driven by electric power Many operations are thus rapidly and economically performed which would otherwise necessitate the transport of fittings to and from shops in the yards. Portable electric light plants for use on board ships while building are now generally recognized to be advantageous and economical. The arrangements made for lighting are readily extended to include driving the machines above mentioned.

Pneumatic power has not been much used in shipbuilding. It has found employment, however, for such operations as caulking and riveting.—Sir William H. White in Cassier's Magazine for December.

ON BOILERS.

In a paper read on November 17 before the society of Naval Architects and Marine Engineers, on "Causes for the adoption of water-tube boilers in the U. S. Navy," Geo. W. Melville, Engineer-in-Chief, on going quite fully into the subject, stated that while for many reasons the use of the water-tube boiler was imperative in naval service, still, for ordinary merchant and yacht service, he would not recommend its substitution for those of the cylindrical type, chiefly because of reasons apparent in the following summary of its merits and faults:

ADVANTAGES.

Less weight of water.
Quicker steamers.
Quicker response to change in amount of steam required.
Greater freedom of expansion.
Higher cruising speed.
More perfect circulation.
Adaptability to high pressure.
Smaller steam pipes and fittings.
Greater ease of repair.
Greater ease of installatiou.
Greater elasticity of design.
Less danger from explosion.

DISADVANTAGES.

Greater danger from failure of tubes.
Better feed arrangements necessary.
Greater skill required in management.
Units too small.
Greater grate surface and heating surface required.
Less reserve in form of water in boiler.
Large number of parts.
Tubes difficult of access.
Large number of joints.
More danger of priming.

So far as tried the boilers have invariably been easy of operation, though I have found more skill required to obtain the best results from these boilers than would have been necessary if cylindrical boilers had been used. Particular attention has been given, in all cases, to the feed arrangements.

Some points made in conclusion were as follows:

I have always opposed the use of boilers containing screw joints in contact with the fire, and have attempted to secure boilers having no cast metal in the pressure parts. Cast steel is not yet good enough to put between 300 lbs. of steam and our firemen. I believe in straight tube boilers as being easier of examination and repair than bent tube boilers, and in large tube boilers for the same reason, and because the tubes are thicker and have more margin for corrosion. I believe in boilers having as few joints as possible. Water-tube boilers must have freedom of expansion of the various parts, and the simpler the boiler the better. The ratio of grate surface to fire surface occupied for the complete boiler plant must be as large as possible. The units should be large, the grates short and not too wide. The passage of gases through the tubes should be sufficiently long to en sure economy. These gases should be well mixed before entering the spacss between the tubes for the same reason and to prevent smoke. The circulation of the water in the boiler must be free.

LAKE FREIGHTS.

The lake freight market is now taking the aspect that it should do at this time of the year and freights are going up in line with the service and risks involved in fall navigation. The Duluth wheat rate is up to 3½ cents with brokers and owners holding for a ¼ cent in advance, though rather misleading quotations have been sent out from Duluth in regard to the grain situation. Fort William figures are 5 cents on wheat for delivery and 6½ cents for transportation and winter holdings at Buffalo. Chicago now offers 2 cents on corn with moderate chartering and rates likely to advance. After the first of December the insurance rates on grain will be advanced, and, of course, the shippers wish to get as much grain down the lakes before the raise as possible. As the largest demand for tonnage will be between this and the first of December, it is thought that the highest rates will be paid during that time. Counting on this, the statement is made that in all probability the rate for the remainder of the season will be established prior to December 1. After this there will, of course be a few cargoes at advanced rates and special charters, but these cannot be figured in the ordinary freight rates for the closing days of the season. The increase of ¾ cents is offered from Duluth for winter storage at Buffalo, making the rate 4½ cents.

Iron ore is paying $1.25 from the head of the lakes, and 10 cents better for Tonawanda, also for small handy boats to Ohio ports. Marquette $1 and Escanaba 90 cents. A figure of $1.50 was offered on three cargoes for loading a week ahead at Two Harbors.

The coal rates are steady at 50 cents to the head of the lakes, 75 cents Chicago–Milwaukee, 65 cents Escanaba, with varying figures to side or minor ports, as for instance Sheboygan, Manitowoc 70 cents. Shippers realize that their time for shipping coal to Lake Superior is short, and they also know that the supply of coal at Duluth is wonderfully low, hence this is forcing them to rush all the coal there that can be secured, but the supply by rail is spasmodic and they can't get all that they would like to. In Owen Sound $1.50 was paid on a cargo this week, being the best rate of the season.

A NEW LIFE SAVING DEVICE.

A life-saving collar, invented by a citizen of Ghent, is described in a letter to the State Department from Consul Le Bert. The apparatus has been tested and its value proved. It is thus described by Mr. Le Bert:

"From my observation, I should judge it to be far superior to either the life buoy or cork jacket. The body is submerged, with the head and neck only exposed, which prevents exposure and chilling. It is impossible to capsize; the arms are left perfectly free, and, what appears to be the most important, its adjustment is instantaneous. It is so simple that a child seven years of age can put it on without assistance. It can readily be adjusted while one is in the water.

"The invention consists of a cork collar having an exterior diameter of 16½ inches, and an interior diameter of about 5 inches.

LETTERS AT DETROIT MARINE POST OFFICE.

NOVEMBER 22d, 1899.

Brunswick, Geo., str. D. Houghton.
Dunn, Lewis, str. Progress.
Dayton, Geo.
Earnest, Mrs.
Frederick, John
Gynas, Philip.
Garvin, Wm.
Haze, Ed., Bge. Rawson.
Leonard, L. 2, Str. North West.
Lavely, Luke.
Leonard, Edward.
Markey, Fred., str. I. W. Stephenson.
Mowatt, Miss Frankee.
McLeod, D. L., str. Clinton.
McSimes, Neil, str. Outhwaite.
Regan, John.
Shirping, Lizzie, str. Drake.
Sherman, Wilbur, str. Drake.
Tiving, Frank.
Thompson, Capt. Chas.
Winter, Tom, str. Masaba.
Wessell, Louis, 3, str. Parnell.
Wilds, Jno., str. Badger State.

F. B. DICKERSON, P. M.

NOTES.

THE Appeal Court of England holds that a reporter has no copyright of the report of speeches giving not only ideas, but words by which the ideas, are expressed. A lower court decided that The London Times had copyright in reports of speeches. The Times will take the case to the House of Lords.

THE action which is being brought by the owners of the steamer Paris against the Commercial Union Insurance Company, to recover £255,000 damages ($1,275,000 constructive total loss), in the respect of the stranding of that steamer on the Manacles, will be heard at the forthcoming Liverpool assizes, which takes place towards the end of the present month.

THE War Department has been informed of an improvement in the megaphone, invented by an Englishman, and now being tested in the British coast forts. It is a simple parabolic reflector with a flexible speaking tube pointed at the focus of the reflector. Speaking into the tube, the sound waves are reflected in practically a direct line and caught by a similar reflector with an ear piece located at some distant point. How far is not yet known.

A NEW self-recording anemoscope has been devised in England which records the direction of the wind on an open scale, has been in use at Southport for more than a year, and works very satisfactorily. The vane, which is an exceedingly light, large, but double-bladed one, is sensitive even in light airs, and is steady in the strongest gales. The records from this anemoscope were very clear and of an interesting character, and showed the instrument to be a valuable companion to the Dines pressure-tube anemometer.

THE Engineer reasons that the increase in the German navy has been viewed in rather exaggerated perspective; 1916 is a long way ahead, and to increase the present nineteen battleships to thirty-eight in that period is not quite what it seems, because unless replacing is also contemplated the present nineteen will be quite obsolete before the year 1916. Nor is the cost, $15,000,000 to $20,000,000 a year, anything formidable. Further, we have read before of the "two grand divisions, each having eighteen battleships with flagship, each division consisting of two squadrons of eight ships, with one in reserve," and cannot refrain from a suspicion that there is a certain amount of rechauffe in the matter.

A NEW instrument has been designed by Mr. Cowper-Coles, of London, for readily locating the direction on sound and for projecting sound long distances. It consists of a reflector mounted on an arm which can be readily turned on its center and depressed or elevated by the operator. When it is desired to ascertain the exact direction from which a sound emanated the apparatus is turned on its axis, and as soon as the reflector is opposite the source of the sound it is heard much more intensified in the receiver. Two instruments are used to carry on the conversation between two distant points or ships. The sound waves are thrown from one reflector to the other, the sound being focused in one instrument in the receiver when the operator speaks into the flexible tube, while the operator working the other instrument places the tube attachment to the receiver to his ear.

IN former issues we have stated that in our opinion any further increase of speed, and even the present record speeds of the trans-Atlantic service, with its increased cost due to such excessive speeds, could only be made commercially payable by separating the high-priced first-class passenger service from the mass of the cheaper passenger and goods traffic. We see that the Hamburg-American Co. are about to test this theory by providing a yacht 400 feet long, fitted for carrying first-class passengers only. The new essay is, however, we believe, to be made only in trips to Norway, the Mediterranean, and the Orient; and, if successful, the owners propose to build other vessels on the same lines, and with even faster speeds than that of the present vessel, which it is said is not to exceed 16 knots. The accommodation for passengers is proposed to be on a most fastidious scale of luxury. Each passenger is to have a separate stateroom to himself, and, for those who are willing to pay, complete suites of chambers with separate bathrooms are to be provided. As those who desire especially high-speed traveling accompanied with every obtainable comfort and luxury, and who are well able and willing to pay high prices for such accommodation, are on the increase year by year, we are strongly of opinion that such a venture will pay provided the first-class passenger vessels are of sufficient tonnage to be safe and comfortable.—The Marine Engineer, London.

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W. J. WILSON,
(Late Lieutenant U. S. Navy),
Principal.

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THE MARINE RECORD,
Third Floor, Western Reserve Building,
Cleveland.

U. S. S. MICHIGAN—DENSENESS OF OFFICERS.

Capt. Ryerse, St. Ignace, sent a communication to the RECORD a short time ago, in which he stated that the U. S. S. Michigan had passed him by without paying the least attention to his signal of several successive toots from the steam whistle. The following unsatisfactory form of correspondence has since been gone through with.

TUG NIAGARA, ST IGNACE, MICH., Sept. 22, 1899.
THE HON. SECRETARY OF THE NAVY, Washington, D. C.

Dear Sir: On Sept. 5th, 10 miles northwest of Gull Island, Lake Michigan, the above named tug was in serious trouble, and we wished to get word to any tug, or telegraph office for assistance; about 9 a. m, of that day the U. S. S. Michigan passed within a half mile of us, without paying any attention to our signals of distress, which were blowing constantly, and what seems still more reprehensible on the part of her captain, or officer in charge, is the fact that after passing us some 6 or 7 miles, the Michigan passed the fishing tug Margaret McCann, and saluted her, without reporting us in trouble. I would like to know if there is any rule, or order of your department, that prevents an officer in charge of a U. S. vessel from answering a distress signal and learning what is the trouble, or is it a matter with the officer in charge to do as he chooses. An answer at your convenience will oblige. Yours respectfully,

LEWIS RYERSE, Master Tug Niagara.

P. S. For reference as to the writer's standing as citizen and master mariner, I would refer you to the Hon. C. V. Shelden, M. C., from our district, or the Hon. James McMillan, Senator, Eastern District, Mich. L. R.

FIRST ENDORSEMENT.

DEPARTMENT OF THE NAVY,
BUREAU OF NAVIGATION.
September 29th, 1899.

SUBJECT:

Mr. Lewis Ryerse, master of the tug Niagara, St. Ignace, Mich., calls attention to failure of the U. S. S. Michigan to answer certain signals of distress made by tug Niagara.

Respectfully referred to the commanding officer of the U. S. S. Michigan, for statement in regard to the within matter.

A. S. CROWNINSHIELD, Chief of Bureau.

SECOND ENDORSEMENT.

U. S. S. MICHIGAN.
CHICAGO, ILL., October 6, 1899.

Respectfully referred to Ensign W. R. Sexton, U. S. N., for statement required by 1st. Endorsement.

C. P. PERKINS,
Commander, U. S. Navy, Commanding.

THIRD ENDORSEMENT.

U. S. S. MICHIGAN.
CHICAGO, ILL., October 7, 1899.

Contents of the letter of Mr. Lewis Ryerse examined. In regard to same, would make the following statement: When the tug was sighted she was almost dead ahead, and after a time was heard to be blowing four blasts on her steam whistle. When quite near to the tug, we sheered away from her to pass clear of floating logs adrift from a raft the tug was towing. The tug did not appear to be disabled, and a careful scrutiny revealed no signals of distress. We passed within a half a mile of her, but her crew made no signals except by the steam whistle (the ordinary call for a tug), I was on watch at the time, the weather was clear and pleasant, and other vessels were in sight then and afterward. The occurrence of passing the tug Niagara was deemed of no importance and no record was made in the log. I am sir

Very respectfully, W. R. SEXTON,
Ensign U. S. Navy.

FOURTH ENDORSEMENT.

U. S. S. MICHIGAN.
Chicago, Ill., Oct. 7th., 1899.

Respectfully returned, attention called to 3rd. endorsement, further:

I was on deck and recollect that the tug with raft of logs in tow was blowing four blasts. We ran quite near her and would have gladly rendered any assistance possible if she had made any signal of distress whatever or asked for assistance.

C. P. PERKINS,
Commander, U. S. Navy, Commanding.

FIFTH ENDORSEMENT.

DEPARTMENT OF THE NAVY,
BUREAU OF NAVIGATION.
October 9th, 1899.

SUBJECT:

Mr. Lewis Ryerse, master of the tug Niagara, St. Ignace, Michigan, calls attention to failure of the U. S. S. Michigan to answer certain signals of distress made by the tug Niagara.

Respectfully returned to Mr. Lewis Ryerse, tug Niagara, St. Ignace, Michigan.

Attention invited to the 3rd and 4th endorsements.

A. S. CROWNINSHIELD, Chief of Bureau.

A TREASURY DECISION.

FISH—STURGEON.

Acipenser rubicundus, or sturgeon of the Great Lakes, held to be distinctly a fresh-water fish and dutiable under paragraph 259, act of 1897.

Before the U. S. General Appraisers at New York, November 10, 1899.

In the matter of protests. 41169 b, etc., of S. Schmidt, against the decision of the collector of customs at Plattsburg, N. Y., as to the rate and amount of duties chargeable on certain merchandise, imported per vessels and entered on dates as set forth in the schedule.

Opinion by Wilkinson, General Appraiser.

The goods are sturgeon packed in ice, taken in the tributaries of Georgian Bay, which opens into Lake Huron. In view of treasury decision 19472, they were assessed for duty at three-fourths of a cent per pound under paragraph 259.

Paragraph 261 levies a duty of three-fourths of a cent per pound upon fresh fish not specially provided for, while paragraph 259 reads:

Fresh-water fish not specially provided for in this Act, one-fourth of one cent per pouud.

In the act of 1894, paragraph 210, provided for salt-water fish packed in ice, while paragraph 481 gave free admission to fresh fish packed in ice. Under that act the Board held in G. A. 3068 that migratory fish, not being distinctively salt-water fish, came under paragraph 481.

But the tariff of 1897 enumerates fresh-water fish and does not name salt-water fish. Following the principal of G. A. 3068, the Board held in G. A. 3954 that paragraph 259 provides only for distinctively fresh water fish, and that migratory fish as well as salt-water fish are covered by other paragraphs of the schedule.

The sturgeon, or Acipenser, may be divided into three classes:

(1) Arcipenser rubicundus, which is common to the Mississippi valley and the Great Lakes.

(2) Acipenser sturio, which is found on the Atlantic coasts and in its tributary streams.

(3) Acipenser transmontanus, or the white sturgeon of the Pacific coast.

It is unnecessary to consider the sturgeon of the Mississippi valley, a territory within the limits of the United States. But it is clear that the sturgeon caught in the Great Lakes is distinctively a fresh-water fish and not a migratory fish, the falls of Niagara being an insuperable obstacle to migration from the sea.

We find, therefore, that the fish in question are fresh-water fish and sustain the claim that they are dutiable at one-fourth of 1 cent per pound under paragraph 259.

THE Superintendent of the United States Geodetic Survey will have the Pathfinder, the new vessel of the Survey, equipped with apparatus for the wireless system of telegraphy. The vessel will go to the Aleutian Isles, and it is thought that by the wireless telegraphy the difference in altitude of the islands will be determined accurately.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Collision—Suit for Damages—Determining Fault.—In determining, on conflicting testimony, which of two vessels was in fault for a collision, the court will take into consideration the probabilities and presumptions based upon the skill, knowledge, and ability of the crews of the respective vessels, which was the better manned, and the less likely to make a mistake. The Genevieve, 96 Fed. Red. (U. S.) 859.

Seamen—Lien for Wages.—Except in the cases provided for in Rev. St. § 4527, where shipping articles have been signed, and a seaman is thereafter unwarrantably discharged by the master, there can be no lien as for wages unless services have in fact been rendered. A seaman engaged for a voyage, but not signed or shipped, has no lien for wages or for expenses incurred. The Glenesslin, 96 Fed. Rep. (U. S.) 768.

Steam Vessels Meeting—Signals.—Where the one of two meeting steam vessels having the right of way fails to signal as required by the rules governing navigation on the lakes (28 Stat. 645), on approaching the other may properly signal by two blasts, in accordance with rule 23, meaning, "I am directing my course to port," and she is not required to wait for an answering signal before changing her course. The Genevieve, 96 Fed. Rep. (U. S.) 859.

Collision—Evidence of Fault.—Where a steam vessel passing down the Detroit river in the night, and having the right of way, failed to signal, as required by the rules, when half a mile from a vessel passing up, and, on receiving a signal from the latter vessel when nearer, answered by a cross signal, changed her course accordingly, and continued at full speed, in violation of rule 26, although the vessels were then near together, she must be held in fault for a resulting collision.

Master and Servant—Employing Incompetent Servant—Injury to Third Person.—Libelant, who was employed as a laborer by stevedores, and engaged with others in stowing cotton in the hold of a ship, was injured by the rolling against him of bales of cotton lowered by the winchman upon those lying under the hatchway. Held, that in the absence of evidence to sustain allegations of the incompetence of the winchman, or of gross negligence on his part, the ship could not be held liable for the injury. The Anaces, 96 Fed. Rep. (U. S.) 856.

Practice in Admiralty—Taking Depostions—Representation of Adverse Party.—Under rule 40 in admiralty of the district court for the Eastern District of Pennsylvania, which permits parties to attend the examination of witnesses whose testimony is taken on commission, either personally or by their proctors, if the adverse party desires to be represented at such an examination he should furnish the name and address of his representative to the party taking out the commission, or to the commissioner, or file the same with his cross interrogatories, in which case it will be the duty of the commissioner to give such representative notice. The Westminister, 96 Fed. Rep. (U. S.) 766.

The Federal Supreme Court at Washington, on Monday, reversed the decision of the circuit court of appeals for the sixth circuit in the case of the steamer Conemaugh against the steamer New York, involving liability for damages resulting from a collision between these vessels in the Detroit river, in 1891. Justice Brown, who delivered the opinion, recited the circumstances preceding the collision, and announced the opinion of the court that both vessels were equally at fault, and that the damages should be borne equally by both. The opinion also says that insurance companies who have paid insurance on the cargo of the Conemaugh may recover from the owners of the New York. Today's decision restores the opinion of the United States court for the eastern district of Michigan, which held both vessels responsible.

U. S. N. ENGINE AND BOILER TESTS.

In his annual report the engineer in chief U. S. N. states as follows:

"During the year I have pursued my former policy of supervising, with officers under this Bureau, such tests and experiments as bid fair to prove of importance and value to the Department. I have already alluded to the test made of one of the Babcock & Wilcox boilers built for the Alert, and the synopsis of this follows, together with tests made upon a Niclausse boiler at the works of William Cramp & Sons, and which was particularly undertaken in order to secure a basis for anticipating the results of the output of the Niclausse boilers being installed on the new Maine.

Tests of machinery also of two of the Great Lake steamers, Pennsylvania and Alexander McDougall, were carried out, the former ostensibly to note the working of the automatic stokers fitted therein, and the latter to note the general operation of the machinery. Advantage was also taken of the opportunity, on the Pennsylvania, to secure exact data regarding the consumption of steam per horse-power of the main and auxiliary machinery, the question of particular importance being to observe the effect of the cylinder ratios used on both these ships.

I have continued the experiments with liquid fuel, which were interrupted by the war, and, while still unable to present data in complete form, I can state that excellent progress is being made with the experiments, and accurate information will result, upon which the Bureau can fairly decide regarding the prospective efficiency of fuel oil and its adaptability to naval use. I have caused experiments to be made with different burners for comparative results, in order to eliminate those least serviceable and to avoid extensive and expensive trials with obviously inferior mechanism. Tests are in progress both at the New York yard and upon the torpedo boat Talbot, and a full report to you will be submitted after sufficient trials have been completed. The special appropriation for this work is being carefully guarded, and ample funds remain to carry it on to definite issue. There are no indications, however, that success in an economic view will be startling, or that radical changes in existing evaporative methods will be found advisable."

A CHICAGO LAKE PIONEER.

Capt. "Shanty" Morgan, one of the old guards among the lake vessel masters of 50 and 60 years ago, was in Chicago Thursday, the guest of Superintendent J. W. Gillman, of the Goodrich line. Capt. Morgan, though born the day before Christmas, 1820, and, therefore, nearly 80 years of age, is still hale and hearty and appears to be enjoying life as much as he did when he raked the shores of the St. Clair river with his jibboom while commander of the Lady Suffolk in the early 40s. It was in a spirit of pure warm-blooded deviltry incident to his first years as commander of a clipper-built vessel rather than in the desire to do the community a service that the captain and his lively jibboom accomplished the "sweeping reform" among the shanties of that savory locality in the old days. It was in this adventure that he won the nickname that has clung to him so long that everybody has forgotten that he had any other handle to his name. Capt. Morgan ran away from his home in Cattaraugus county, New York, when he was 12 years old, walked to Buffalo and shipped on a schooner before he knew which end started out first. He sailed the lakes steadily from that time until 1875. From 1878 to 1883 he was captain of the life-saving crew at Big Point au Sable, and it was here that his daughter, now deceased, in company with a single sailor, rescued the crew of a fishing boat in a blinding snow storm during one of the hardest gales of the early spring. For their action they were tendered a medal by Congress, but it was refused. Though Capt. Morgan was master of the various vessels of the Goodrich line from 1856 to the year of the great Chicago fire, he had sailed long before that time as master of vessels engaged in the carrying of grain to Buffalo. While master of the Lady Suffolk, a vessel with a capacity of 70,000 bushels of wheat, he brought to Chicago from Buffalo the first railroad iron ever brought here—that was used to build what is now the Chicago and Alton road. He relates that he deposited the rails "away out" on the prairie along the river bank below Madison street. The captain's first boat of the Goodrich line was the side-wheeler Huron, and he sailed in succession a large number of steamers of the line, the very names of which are now only a memory to old Chicagoans. Among these vessels were the Wabash Valley, the Sunbeam, the Ogontz, the Alpena, the Victor, the Comet, the Seabird, the May Queen and the Lady Franklin. As commander of the Seabird he was the keen professional rival of Capt. McHenry, who was master of the May Queen, another of the crack boats of the line. When off duty the two captains were cronies, but the professional rivalry became stern from the moment the two men mounted the bridge. Capt. McHenry, it will be remembered by old residents, was the father of W. E. McHenry, more popularly known as "Billy" McHenry, at one time president of the Chicago Board of Trade, and also in his time one of the heaviest of speculators. Capt. Morgan relates that he carried a cargo of wheat in his vessel, the Lady Suffolk, from Michigan City to Buffalo at a rate of 32 cents per bushel. It was in these times that Capts. Wiley M. Egan and John Prindiville were young fellows winning their spurs as masters of freighters plying between Chicago and Buffalo. Capt. Morgan's last boat was the steamer Charles McVea, plying between Chicago and Saugatuck, Mich. His son is now master of the big steel freighter Marina of the Minnesota Steamship Co., carrying ore from Lake Superior to South Chicago. The old gentleman spends his winters on his son's farm in Ohio and his summers in the Manitous. He still cherishes a longing for lake travel, and rode up to Milwaukee on the Indiana in order to "visit" with his old shipmate Watson, steward of the line.

PROTECTING LAKE LEVELS.

The Evening Telegraph publishes a letter this week from Mr. Frank J. Firth, president of the Lake Carriers' Association, on the matter of maintaining lake levels. Certainly the subject is of such large importance that Mr. Firth's advice as to the appointment of a competent expert committee to endeavor to find out in advance the possible effect of the various canals on the lakes is certainly worthy of immediate recognition and endorsement by every lake interest. The Evening Telegraph suggests that the Commercial Club take up Mr. Firth's suggestion and communicate with him on the subject. It is better to attend to it now then to let it go along to the stage when large vested private interests may be damaged by any protective action on the part of the lake interests.—Evening Telegram, West Superior, Wis.

INQUIRY ON THE LOSS OF A VESSEL.

A British steamer, the Bay State, was recently lost near Cape Race, and the following questions regarding the casualty were submitted for the opinion of the court of inquiry:

1. What number of compasses had the vessel; were they in good order and sufficient for the safe navigation of the vessel, and when and by whom were they last adjusted?
2. Did the master ascertain the deviation of his compasses by observation from time to time; were the errors correctly ascertained, and the proper corrections to the courses applied?
3. Was the vessel supplied with the requisite charts and sailing directions?
4. Were proper measures taken to ascertain and verify the position of the vessel at or about noon of the 2d October last?
5. Were safe and proper courses steered after noon of the 2d October, was due and proper allowance made for northerly set, and were the courses steered made good?
6. Did the master on the evening of the 2d October give the chief officer proper and sufficient instructions as to the navigation of the vessel, and did the chief officer carry out the instructions given him by the master?
7. Having regard to the state of the weather at and after 4 a. m. of the 2d October, was the vessel navigated at too great a rate of speed?
8. Was the master on deck at a time when the safety of the vessel required his personal supervision?
9. Was the lead used before the vessel stranded, and if not, should it have been used?
10. Was a good and proper lookout kept?
11. What was the cause of the casualty?
12. Was the vessel navigated with proper and seamanlike care?
13. Was the loss of the steamer Bay State caused by the wrongful act of the master, chief, second, third and fourth officers, or any of them?

We have only to say that lake casualties might be similarly inquired into, and the cause of the strandings more clearly ascertained than has been the custom in the past.

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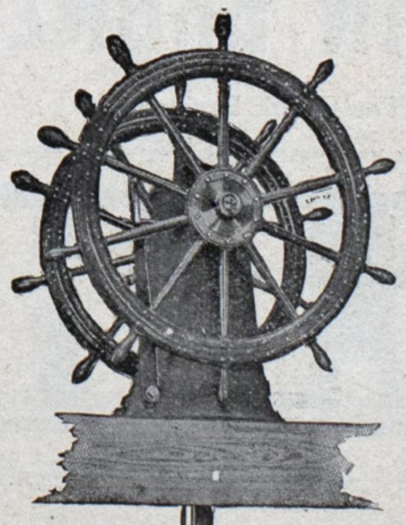

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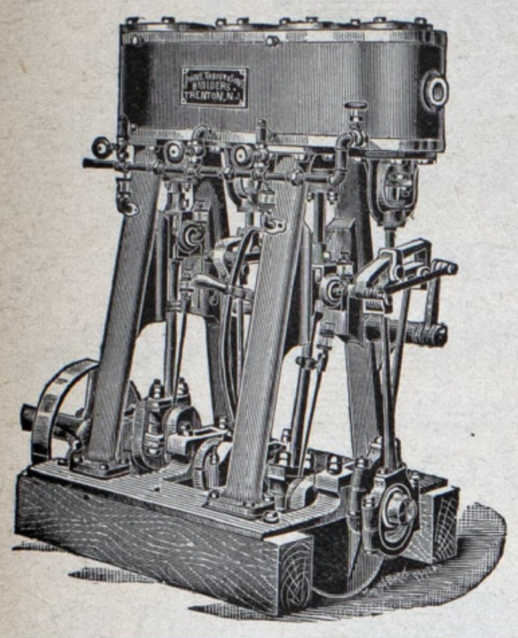

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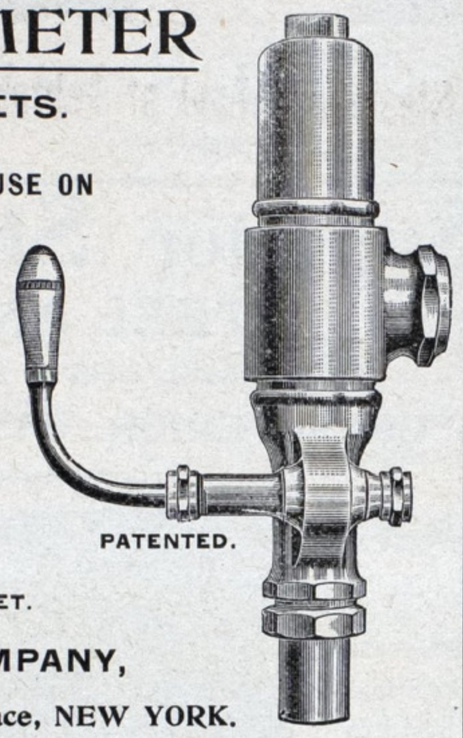

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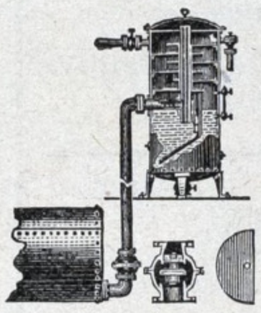

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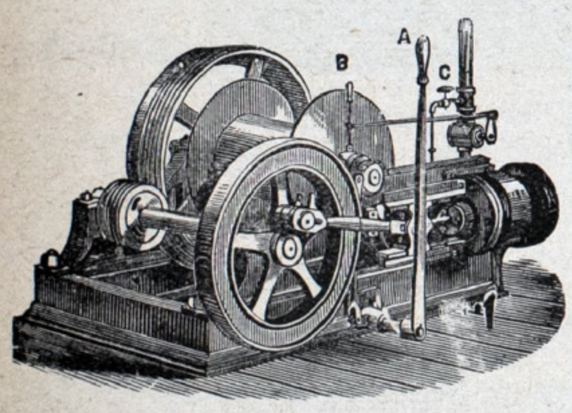

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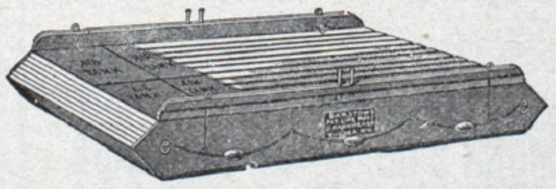

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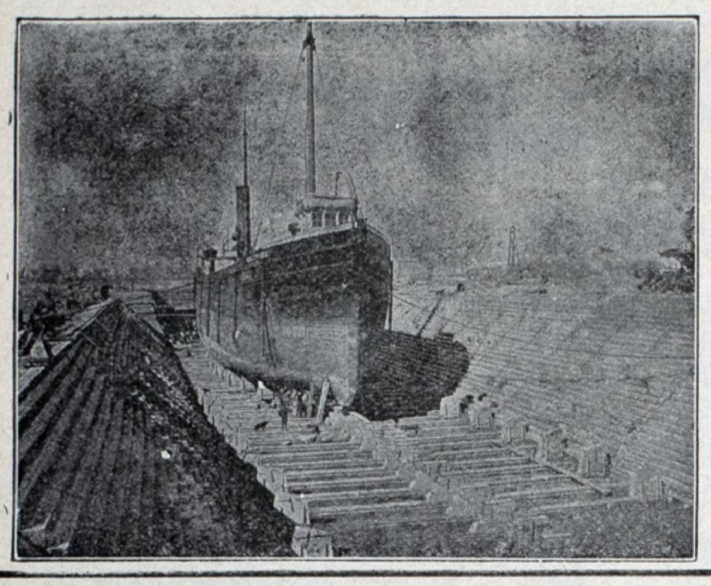

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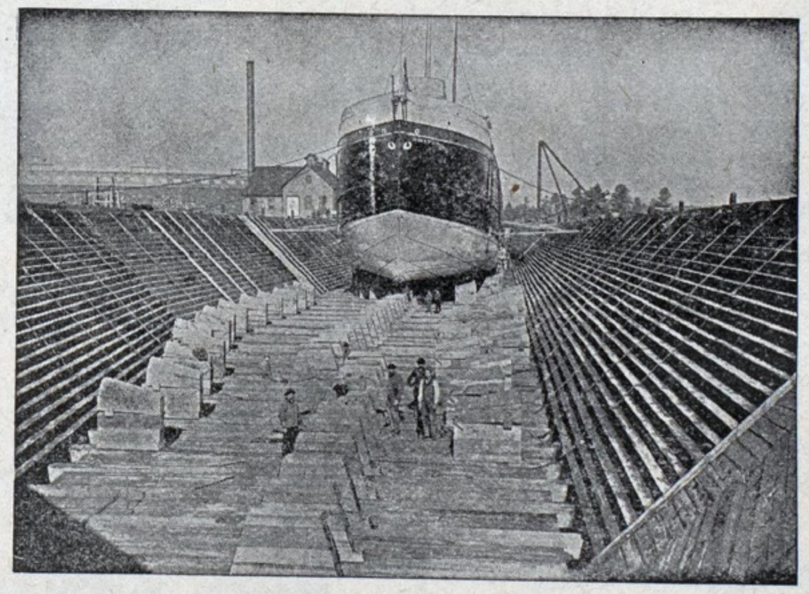

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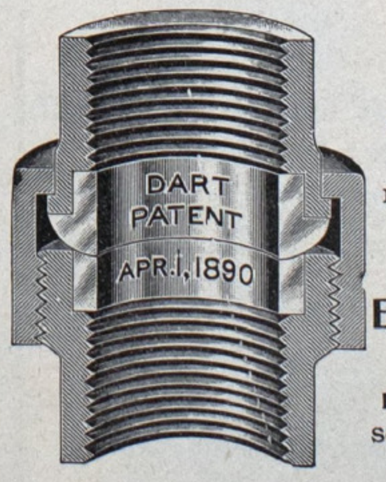

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